LETTING DATE **Dec 15, 2026**

Microsurfacing

NHSN-018-1(101)--2R-84

SIOUX COUNTY

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	**Title Sheets**
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	**Typical Cross Sections and Details**
B.1	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1 - 2	Estimated Project Quantities & Reference Information
C.3 - 20	Tabulations & General Notes
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
J.2	511 Travel Restrictions
U Sheets	**500 Series, Mod.Stds. and Detail Sheets**
U.1 - 2	Guardrail Layout Detail Sheets

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

SIOUX COUNTY

Microsurfacing

Division St in Hull to College Dr. in Sheldon

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.13 of the Specifications.

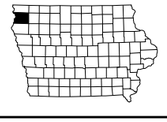
IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

	TOTAL
	27
PROJECT IDENTIFICATION NUMBER	
24-84-018-040	
PROJECT NUMBER	
NHSN-018-1(101)--2R-84	
R.O.W. PROJECT NUMBER	

Scan the QR code or click the link below to leave plan quality feedback and help us improve future projects.

Design QR Feedback Link



DESIGN DATA RURAL			
20 24	AADT	5700	V.P.D.
20 –	AADT	–	V.P.D.
20 –	DHV	–	V.P.H.
TRUCKS		15	%
Total Design ESALs		–	

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER
JUSTIN M. POTTORFF
25733
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature — Date: 01/06/2025

JUSTIN M. POTTORFF
Printed or Typed Name

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: ALL

FILE NO.	ENGLISH	DESIGN TEAM District 3	SIOUX COUNTY	PROJECT NUMBER NHSN-018-1(101)--2R-84	SHEET NUMBER A.1

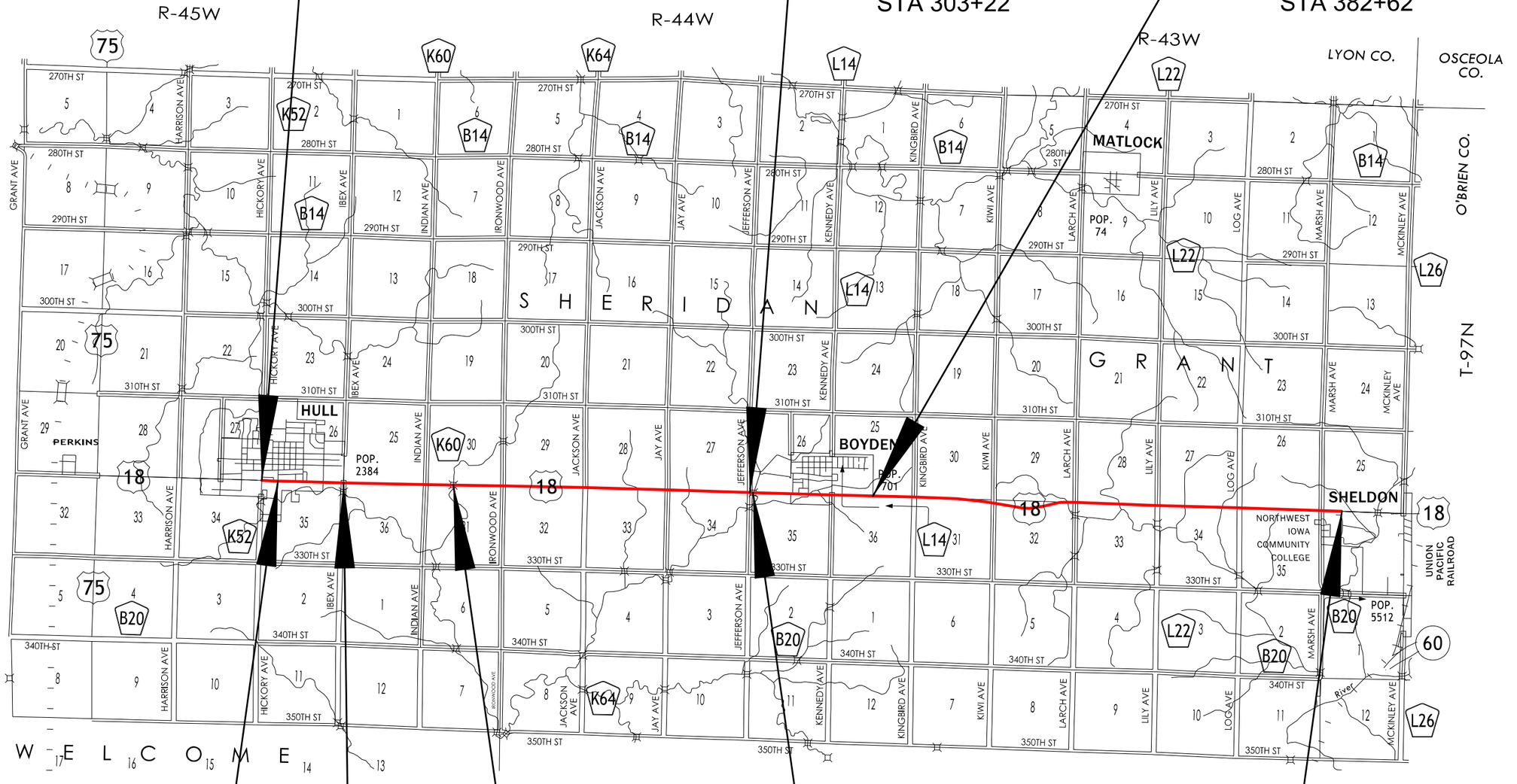
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SIOUX COUNTY

BEGIN CONSTRUCTION
BEGIN DIVISION 2
MP 27.74
STA 103+34

END DIVISION 1
BEGIN DIVISION 2
MP 33.70
STA 303+22

END DIVISION 2
BEGIN DIVISION 1
MP 35.19
STA 382+62



FHWA NO. 48311

FHWA NO. 48321

EQUATION:
STA 116+76.8 (BACK) =
STA 0+00 (AHEAD)

END DIVISOIN 2
BEGIN DIVISION 1
MP 28.72
STA 41+85

END CONSTRUCTION
MP 40.92
STA 683+81

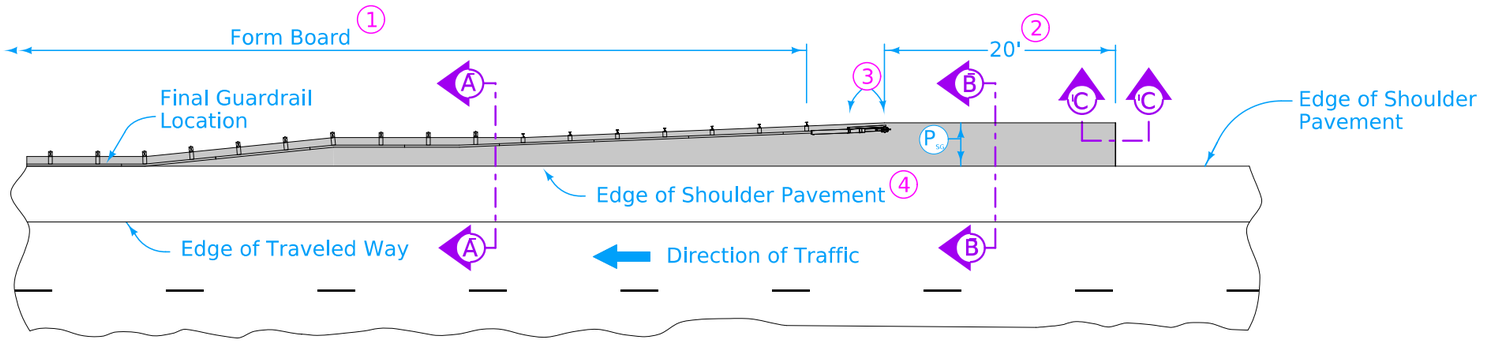
LOCATION MAP SCALE
0 1 2 3
Miles

84

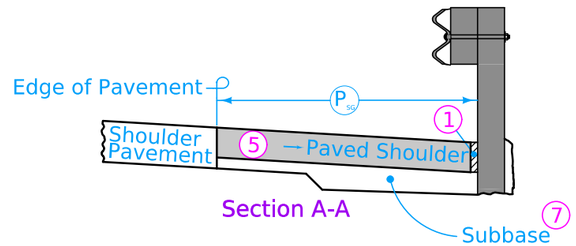
FILE NO. 98765	ENGLISH	DESIGN TEAM District 3	SIOUX COUNTY	PROJECT NUMBER NHSN-018-1(101)--2R-84	SHEET NUMBER A.2

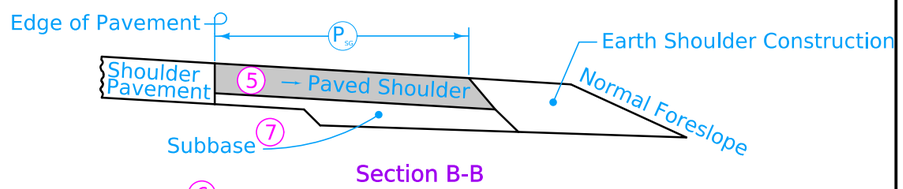
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DESIGNER INFORMATION



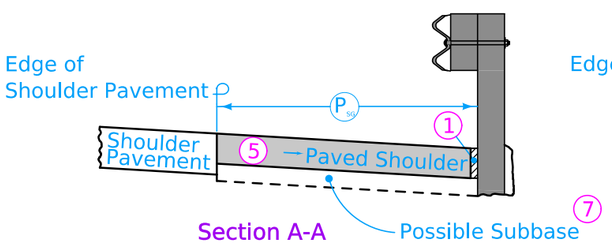
PLAN VIEW

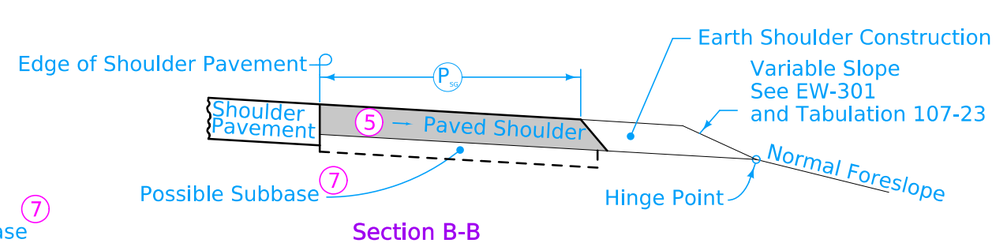




6

NEW CONSTRUCTION





EXISTING SHOULDER

7158
MODIFIED

8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Refer to Tabulation 112-9 for shoulder quantities.

(1) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.

(2) Continue paved shoulder 20 feet beyond the center of the first post.

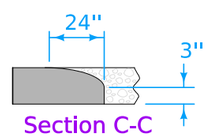
(3) Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(4) 'BT' (per PV-101) joint for PCC shoulder.
'B' (per PV-101) joint for HMA shoulder.

(5) Match shoulder slope.

(6) The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.

(7) Refer to other details in the plan.



Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO FULL WIDTH PAVED SHOULDER)

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Urban : Roadway Items
Rural : Roadway Items

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Urban	Rural	Total	
1	2102-0425071	SPECIAL BACKFILL	CY		208.8	208.8	Refer to Tab. 112-09.
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY		412	412	Refer to Tab. 107-23
3	2122-5190008	PAVED SHOULDER, P.C. CONCRETE, 8 IN.	SY		662.9	662.9	Refer to Tab. 112-09.
4	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA		5.32	5.32	Refer to Tab. 112-09 Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specifications.
5	2308-1000000	ASPHALT EMULSION FOR FOG SEAL (SHOULDERS)	GAL	614.99	3,333.69	3,948.68	Diluted emulsion at 0.07 gallons per square yard of shoulder. Diluted emulsion at 0.07 gallons per square yard of shoulder.
6	2320-0000002	AGGREGATE FOR MICROSURFACING, FRICTION L-2	TON	415.66	1,536.29	1,951.95	The microsurfacing shall be placed full width (24') and is estimated at 20 pounds per square yard.
7	2320-0000020	PREPARATION OF SURFACE FOR MICROSURFACING	MILE	2.99	10.64	13.63	10.20 Miles of 2 lane Pavement. 0.29 Miles of 3 lane Pavement. 2.09 Miles of 2 lane Pavement. 0.60 Miles of 3 lane Pavement.
8	2320-0000030	EMULSIFIED ASPHALT FOR MICROSURFACING	GAL	11,876	43,893.9	55,769.9	Quantity is estimated at 12% of the microsurfacing aggregate.
9	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF		1,000	1,000	Refer to Tab. 110-07A
10	2505-4008300	STEEL BEAM GUARDRAIL	LF		700	700	Refer to Tab. 108-08A
11	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH		7	7	
12	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH		7	7	
13	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH		7	7	
14	2510-6745850	REMOVAL OF PAVEMENT	SY		210.9	210.9	Refer to Tab. 110-5. To remove PCC shoulder pavement so that new guardrail is flush to back of paved shoulder.
15	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	20	20	40	Refer to Tab. 108-29 on C Sheets.
16	2527-9263155	PRE-CUT SYMBOLS AND LEGENDS, PREFORMED THERMOPLASTIC MARKING MATERIAL	EACH	10	10	20	Refer to Tab. 108-29 on C Sheets.
17	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	411.7	4,986.05	5,397.75	Refer to Tab. 108-22 on C Sheets.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Urban	Rural	Total	
18	2527-9263225	PERMANENT TAPE MARKINGS, PREFORMED THERMOPLASTIC MARKING MATERIAL	STA	16.85		16.85	
19	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	80.21	1,404.49	1,484.7	
20	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	EACH	10	10	20	Refer to Tab. 108-29 on C Sheets.
21	2528-8445110	TRAFFIC CONTROL	LS	0.2	0.8	1	Refer to Traffic Control Plan Refer to Traffic Control Plan
22	2528-8445113	FLAGGERS	EACH	0	0	0	See Proposal.
23	2528-8445115	PILOT CARS	EACH	0	0	0	See Proposal.
24	2528-8445116	FLAGGER WITH AFAD	EACH	0	0	0	See Proposal. See Proposal.
25	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY		437.33	437.33	Refer to Tab. 102-6C
26	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH		54	54	
27	2533-4980005	MOBILIZATION	LS	0.2	0.8	1	- -
28	2548-0000310	MILLED CENTERLINE RUMBLE STRIPS, HMA SURFACE	STA		562.56	562.56	Refer to Tab. 112_10 on C Sheets.
29	2551-0000230	PERMANENT CRASH CUSHION, SEVERE USE (SU)	EACH		1	1	Refer to Tab. 109-30. Refer to Specification 2551 for installation at concrete barrier rail.
30	2599-9999018	('SQUARE YARDS' ITEM) Micro Milling	SY	39,257.33	153,628.67	192,886	See SP for Micro Milling Asphalt Pavements. Mill uniform depth of 3/8 of an inch. See SP for Micro Milling Asphalt Pavements. Mill uniform depth of 3/8 of an inch.
31	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	168		168	Refer to Tab 100-36. Add additional 20% to this item to cover widths exceeding 5-FT.
32	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	28		28	Refer to Tab 100-36.
33	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	28		28	

100_01D

8/15/22

PROJECT DESCRIPTION

This is a Micro Milling and Microsurfacing project on US 18 in Sioux County from Division St in Hull to College Dr. in Sheldon. Other work includes patching, centerline rumble strips, fog seal existing shoulders, updating guardrail, and pavement markings.

EXISTING PAVEMENT

Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
1.0	Sioux	US-18	EB	25.84	27.76	2025	O	NHSX-018-1(100)--3H-84	PCC	10.0	MSB										
2.0																					
3.0	Sioux	US-18	EB	27.76	36.96	2021	M	MP-018-3(707)26--76-84													PCC patching
4.0	Sioux	US-18	EB	27.76	36.96	2018	M	MP-000-3(730)0--76-00													HMA crack filling
5.0	Sioux	US-18	EB	27.76	36.96	2009		NHSX-018-1(69)--3H-84	HMA	2.0					MIL	2.0	ASHTON-SIEVERT	GRAVEL			
6.0	Sioux	US-18	EB	27.76	36.96	1990		F-18-1(41)--20-84	AAC	3.0					MIL	1.0	KLONDIKE	C.LST.			
7.0	Sioux	US-18	EB	27.76	36.96	1977		MP-3813--69	ASC	1.0							SIOUX CENTER	SAND			
8.0	Sioux	US-18	EB	27.76	36.96	1965		F-43(16)	AAC	1.5	AAC	1.5					GILMORE CITY	C.LST.			
9.0	Sioux	US-18	EB	27.76	36.96	1937		FA-43EFA	PC7	7.5							CORRECTIONVILLE	GRAVEL	2		
10.0																					
11.0	Sioux	US-18	EB	36.96	37.68	2021	M	MP-018-3(707)26--76-84													PCC patching
12.0	Sioux	US-18	EB	36.96	37.68	2018	M	MP-000-3(730)0--76-00													HMA crack filling
13.0	Sioux	US-18	EB	36.96	37.68	2009		NHSX-018-1(69)--3H-84	HMA	2.0	HMA	2.0					ASHTON-SIEVERT	GRAVEL			
14.0	Sioux	US-18	EB	36.96	37.68	1991		RRP-18-1(42)--48-84	PCC	10.0							GILMORE CITY-MW	C.LST.	I		
15.0																					
16.0	Sioux	US-18	EB	37.68	40.89	2021	M	MP-018-3(707)26--76-84													PCC patching
17.0	Sioux	US-18	EB	37.68	40.89	2018	M	MP-000-3(730)0--76-00													HMA crack filling
18.0	Sioux	US-18	EB	37.68	40.89	2009		NHSX-018-1(69)--3H-84	HMA	2.0					MIL	2.0	ASHTON-SIEVERT	GRAVEL			
19.0	Sioux	US-18	EB	37.68	40.89	1990		F-18-1(41)--20-84	AAC	3.0					MIL	1.0	KLONDIKE	C.LST.			
20.0	Sioux	US-18	EB	37.68	40.89	1977		MP-3813--69-84	ASC	1.0							SIOUX CENTER	SAND			
21.0	Sioux	US-18	EB	37.68	40.89	1965		F-43(16)	AAC	1.5	AAC	1.5					GILMORE CITY	C.LST.			
22.0	Sioux	US-18	EB	37.68	40.89	1937		FA-43EFA	PC7	7.5							CORRECTIONVILLE	GRAVEL	2		
23.0																					
24.0	Sioux	US-18	EB	40.89	41.71	2021	M	MP-018-3(707)26--76-84													PCC patching
25.0	Sioux	US-18	EB	40.89	41.71	2009	V	NHSX-018-1(69)--3H-84	HMA	2.0		1.0			MIL	1.0	ASHTON-SIEVERT	GRAVEL			
26.0	Sioux	US-18	EB	40.89	41.71	1992		RRP-18-1(37)--48-84	PCC	10.0							GILMORE CITY-MW	C.LST.	I		

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	10-20-26	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-26	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-20-26	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
PM-110	10-15-24	Line Types
PM-111	04-21-20	Symbols and Legends
PM-115	10-20-26	Grooving for Line Types
PR-103	10-21-25	Full Depth PCC Patch with Dowels
PV-13	10-20-26	Milled Centerline Rumble Strips
PV-101	10-20-26	Joints
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure with Flaggers
TC-214	04-18-23	Lane Closure with Flaggers for use with Pilot Car
TC-231	04-18-23	Slow Moving Vehicle Operating in the Traffic Lane
TC-233	10-17-17	Pavement Marking Operations Two-Lane

100_36
8/15/22

OPEN-THROAT CURB INTAKE SEDIMENT FILTER

Possible Standard: EC-602

Line No.	Station	Side	Installation (LF)	Maintenance (Each)	Removal (Each)	Remarks
1.0	103+34.00	Right	5.0	1	1.0	EB
2.0	106+27.00	Left	5.0	1	1.0	WB
3.0	108+39.00	Right	5.0	1	1.0	EB
4.0	108+39.00	Left	5.0	1	1.0	WB
5.0	111+75.00	Left	5.0	1	1.0	WB
6.0	112+37.00	Right	5.0	1	1.0	EB
7.0	112+92.00	Left	5.0	1	1.0	WB
8.0	114+38.00	Right	5.0	1	1.0	EB
9.0	115+67.00	Right	5.0	1	1.0	EB
10.0	1+92.00	Left	5.0	1	1.0	WB
11.0	2+19.00	Left	5.0	1	1.0	WB
12.0	2+53.00	Left	5.0	1	1.0	WB
13.0	3+25.00	Left	5.0	1	1.0	WB
14.0	5+24.00	Left	5.0	1	1.0	WB
15.0	5+70.00	Right	5.0	1	1.0	EB
16.0	8+20.00	Left	5.0	1	1.0	WB
17.0	9+76.00	Right	5.0	1	1.0	EB
18.0	10+58.00	Left	5.0	1	1.0	WB
19.0	10+95.00	Left	5.0	1	1.0	WB
20.0	14+13.00	Right	5.0	1	1.0	EB
21.0	15+11.00	Left	5.0	1	1.0	WB
22.0	15+11.00	Right	5.0	1	1.0	EB
23.0	15+63.00	Left	5.0	1	1.0	WB
24.0	17+47.00	Right	5.0	1	1.0	EB
25.0	18+28.00	Left	5.0	1	1.0	WB
26.0	19+32.00	Left	5.0	1	1.0	WB
27.0	28+89.00	Left	5.0	1	1.0	WB
28.0	29+30.00	Left	5.0	1	1.0	WB

FULL-DEPTH PATCHES

Line No.	Count	Station	Direction of Travel	Side	Length (FT)	Width (FT)	Patch Thickness (IN)	Patch Repair or Finish	PCC Patch Type	PCC Patch Quantity (SY)	'CD' Joints (No.)	'CT' Joints (No.)	'EF' Joints PR-101 (No.)	Anchor Lugs Removal (No.)	Remarks
1.0	1	70+30.00	EB	Right	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					In The Shoulder
2.0	1	110+36.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
3.0	1	113+57.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
4.0	2	113+82.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
5.0	1	114+08.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
6.0	1	114+46.00	EB	Right	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
7.0	1	117+76.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
8.0	2	172+52.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
9.0	1	210+55.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
10.0	2	215+37.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
11.0	1	216+56.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
12.0	2	248+72.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
13.0	2	265+57.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
14.0	2	276+84.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
15.0	2	285+08.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
16.0	2	412+65.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
17.0	2	415+58.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
18.0	2	453+54.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
19.0	2	458+62.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
20.0	2	469+55.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
21.0	2	470+44.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
22.0	2	521+85.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
23.0	2	531+64.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
24.0	1	535+66.00	WB	Left	20.0	6.0	13.5	Finsh	PCC With Dowels (PR-103)	13.3					Half Lane WB
25.0	1	543+34.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					
26.0	2	557+20.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
27.0	1	577+97.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					Failed PCC Patch
28.0	2	578+18.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
29.0	2	587+94.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
30.0	2	590+93.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
31.0	2	623+96.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
32.0	2	644+67.00	2-Lane	Both	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	16.0					
33.0	1	665+26.00	WB	Left	6.0	12.0	13.5	Finsh	PCC With Dowels (PR-103)	8.0					Half Lane WB
Total	54									437.3					

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

(1) Lane(s) to which the installation is adjacent.

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	EB	112+25.80	Right	3 to 1	180.2	15.0					236.4	17.0	83.0		76.4	
2.0	WB	112+25.80	Left	3 to 1	92.7	15.0					148.9	17.0	83.0		45.7	
3.0	EB	112+59.80	Right	3 to 1	92.7	15.0					148.9	17.0	83.0		45.7	
4.0	WB	112+59.80	Left	3 to 1	180.2	15.0					236.4	17.0	83.0		76.4	
5.0	WB	305+39.90	Left	3 to 1	92.7	15.0					148.9	17.0	83.0		45.7	
6.0	EB	305+73.90	Right	3 to 1	92.7	15.0					148.9	17.0	83.0		45.7	
7.0	WB	305+73.90	Left	3 to 10	180.2	15.0					236.4	17.0	83.0		76.4	

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	EB	Right	112+25.80	22.0	BA-201	1	BA-205	1	190.625			47.70			3				1	B	1		150.0	
2.0	WB	Left	112+25.80	22.0	BA-201	1	BA-205	1	103.125			47.70			3			1		B	1		62.5	
3.0	EB	Right	112+59.80	22.0	BA-201	1	BA-205	1	103.125			47.70			3				1	B	1		62.5	
4.0	WB	Left	112+59.80	22.0	BA-201	1	BA-205	1	190.625			47.70			3			1		B	1		150.0	
5.0	WB	Left	305+39.90	22.0	BA-201	1	BA-205	1	103.125			47.70			3			1		B	1		62.5	
6.0	EB	Right	305+73.90	22.0	BA-201	1	BA-205	1	103.125			47.70			3				1	B	1		62.5	
7.0	WB	Left	305+73.90	22.0	BA-201	1	BA-205	1	190.625			47.70			3			1		B	1		150.0	

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17 | BCY6: Broken Centerline (Yellow) @ 0.25 | BLC6: Broken Line Contrast (White/Black) @ 0.50 | BLW4: Broken Lane Line (White) @ 0.17 | BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 | CHW8: Channelizing Line (White) @ 1.33 | CHW10: Channelizing Line (White) @ 1.67 | CHY8: Channelizing Line (Yellow) @ 1.33 | CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 | DCY4: Double Centerline (Yellow) @ 1.34 | DCY6: Double Centerline (Yellow) @ 2.00 | DDY4: Double Dotted Line (Yellow) @ 0.44 | DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 | DLW6: Dotted Line (White) @ 0.33 | DLY4: Dotted Line (Yellow) @ 0.22 | DLY6: Dotted Line (Yellow) @ 0.33 | ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 | ELY4: Edge Line Left (Yellow) @ 0.67 | ELY6: Edge Line Left (Yellow) @ 1.00 | LDW8: Lane Drop (White) @ 0.33 | LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 | NPY4: No Passing Zone Line (Yellow) @ 0.84 | NPY6: No Passing Zone Line (Yellow) @ 1.25 | RLW4: Ramp Edge Line Right (White) @ 0.67 | RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 | RLY6: Ramp Edge Line Left (Yellow) @ 1.00 | SLW2: Stop Line (White) @ 4.00 | SLW4: Solid Lane Line (White) @ 0.67 | SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 | SPW6: Sloped Curb 6" (White) @ 2.28 | SPY4: Sloped Curb 4" (Yellow) @ 2.16 | SPY6: Sloped Curb 6" (Yellow) @ 2.28 | STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 | YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Begin Ref. Location Sign	End Ref. Location Sign	Line Length (STA)	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 (STA)	BCY6 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHY8 (STA)	CHY8 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	Remarks
1.0	US 18	27.8	27.93	6.86	NB	Waterborne/Solvent Paint		X		No								6.86	13.72					MICROMILLING TEMP PAINT
2.0	US 18	27.93	28.17	12.67	NB	Waterborne/Solvent Paint		X		No						12.67	16.85							MICROMILLING TEMP PAINT
3.0	US 18	28.17	28.28	5.81	NB	Waterborne/Solvent Paint		X		No								5.81	11.62					MICROMILLING TEMP PAINT
4.0	US 18	28.28	29.03	39.60	NB	Waterborne/Solvent Paint		X		No		39.60	9.90											MICROMILLING TEMP PAINT
5.0	US 18	29.03	29.21	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROMILLING TEMP PAINT
6.0	US 18	29.21	29.23	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											MICROMILLING TEMP PAINT
7.0	US 18	29.23	29.41	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROMILLING TEMP PAINT
8.0	US 18	29.41	29.43	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											MICROMILLING TEMP PAINT
9.0	US 18	29.43	29.74	16.37	NB	Waterborne/Solvent Paint		X		No												16.37	20.46	MICROMILLING TEMP PAINT
10.0	US 18	29.74	29.78	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											MICROMILLING TEMP PAINT
11.0	US 18	29.78	29.92	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROMILLING TEMP PAINT
12.0	US 18	29.92	30.28	19.01	NB	Waterborne/Solvent Paint		X		No		19.01	4.75											MICROMILLING TEMP PAINT
13.0	US 18	30.28	30.48	10.56	NB	Waterborne/Solvent Paint		X		No												10.56	13.20	MICROMILLING TEMP PAINT
14.0	US 18	30.48	30.64	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROMILLING TEMP PAINT
15.0	US 18	30.64	31.79	60.72	NB	Waterborne/Solvent Paint		X		No		60.72	15.18											MICROMILLING TEMP PAINT
16.0	US 18	31.79	31.95	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROMILLING TEMP PAINT
17.0	US 18	31.95	31.99	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											MICROMILLING TEMP PAINT
18.0	US 18	31.99	32.13	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROMILLING TEMP PAINT
19.0	US 18	32.13	33.19	55.97	NB	Waterborne/Solvent Paint		X		No		55.97	13.99											MICROMILLING TEMP PAINT
20.0	US 18	33.19	33.38	10.03	NB	Waterborne/Solvent Paint		X		No												10.03	12.54	MICROMILLING TEMP PAINT
21.0	US 18	33.38	33.56	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROMILLING TEMP PAINT
22.0	US 18	33.56	35.04	78.14	NB	Waterborne/Solvent Paint		X		No		78.14	19.54											MICROMILLING TEMP PAINT
23.0	US 18	35.04	35.16	6.34	NB	Waterborne/Solvent Paint		X		No												6.34	7.93	MICROMILLING TEMP PAINT
24.0	US 18	35.16	35.22	3.17	NB	Waterborne/Solvent Paint		X		No		3.17	0.79											MICROMILLING TEMP PAINT
25.0	US 18	35.22	35.32	5.28	NB	Waterborne/Solvent Paint		X		No												5.28	6.60	MICROMILLING TEMP PAINT
26.0	US 18	35.32	37.78	129.89	NB	Waterborne/Solvent Paint		X		No		129.89	32.47											MICROMILLING TEMP PAINT
27.0	US 18	37.78	37.96	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROMILLING TEMP PAINT
28.0	US 18	37.96	38.1	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROMILLING TEMP PAINT
29.0	US 18	38.1	40.35	118.80	NB	Waterborne/Solvent Paint		X		No		118.80	29.70											MICROMILLING TEMP PAINT
30.0	US 18	40.35	40.51	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROMILLING TEMP PAINT
31.0	US 18	40.51	40.55	2.11	NB	Waterborne/Solvent Paint		X		No								2.11	4.22					MICROMILLING TEMP PAINT
32.0	US 18	40.55	40.71	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROMILLING TEMP PAINT
33.0	US 18	40.71	41.01	15.84	NB	Waterborne/Solvent Paint		X		No				15.84	3.96							15.84	19.80	MICROMILLING TEMP PAINT
34.0	US 18	27.8	41.01	697.49	NB	Waterborne/Solvent Paint	X		X	No										1394.98	1394.98			MICROMILLING TEMP PAINT
35.0	US 18	27.8	27.84	2.11	NB	Waterborne/Solvent Paint			X	No										2.11	2.11			MICROMILLING TEMP PAINT
36.0	US 18	27.86	27.92	3.17	NB	Waterborne/Solvent Paint	X			No										3.17	3.17			MICROMILLING TEMP PAINT
37.0	US 18	27.99	28.05	3.17	NB	Waterborne/Solvent Paint			X	No										3.17	3.17			MICROMILLING TEMP PAINT
38.0	US 18	28.06	28.1	2.11	NB	Waterborne/Solvent Paint	X			No										2.11	2.11			MICROMILLING TEMP PAINT
39.0	US 18	31.74	31.79	2.64	NB	Waterborne/Solvent Paint			X	No										2.64	2.64			MICROMILLING TEMP PAINT

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17 | BCY6: Broken Centerline (Yellow) @ 0.25 | BLC6: Broken Line Contrast (White/Black) @ 0.50 | BLW4: Broken Lane Line (White) @ 0.17 | BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 | CHW8: Channelizing Line (White) @ 1.33 | CHW10: Channelizing Line (White) @ 1.67 | CHY8: Channelizing Line (Yellow) @ 1.33 | CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 | DCY4: Double Centerline (Yellow) @ 1.34 | DCY6: Double Centerline (Yellow) @ 2.00 | DDY4: Double Dotted Line (Yellow) @ 0.44 | DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 | DLW6: Dotted Line (White) @ 0.33 | DLY4: Dotted Line (Yellow) @ 0.22 | DLY6: Dotted Line (Yellow) @ 0.33 | ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 | ELY4: Edge Line Left (Yellow) @ 0.67 | ELY6: Edge Line Left (Yellow) @ 1.00 | LDW8: Lane Drop (White) @ 0.33 | LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 | NPY4: No Passing Zone Line (Yellow) @ 0.84 | NPY6: No Passing Zone Line (Yellow) @ 1.25 | RLW4: Ramp Edge Line Right (White) @ 0.67 | RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 | RLY6: Ramp Edge Line Left (Yellow) @ 1.00 | SLW2: Stop Line (White) @ 4.00 | SLW4: Solid Lane Line (White) @ 0.67 | SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 | SPW6: Sloped Curb 6" (White) @ 2.28 | SPY4: Sloped Curb 4" (Yellow) @ 2.16 | SPY6: Sloped Curb 6" (Yellow) @ 2.28 | STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 | YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Begin Ref. Location Sign	End Ref. Location Sign	Line Length (STA)	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 (STA)	BCY6 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHY8 (STA)	CHY8 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	Remarks
40.0	US 18	34.81	34.9	4.75	NB	Waterborne/Solvent Paint	X			No										4.75	4.75			MICROMILLING TEMP PAINT
41.0	US 18	35.74	35.8	3.17	NB	Waterborne/Solvent Paint			X	No										3.17	3.17			MICROMILLING TEMP PAINT
42.0	US 18	38.79	38.85	3.17	NB	Waterborne/Solvent Paint	X			No										3.17	3.17			MICROMILLING TEMP PAINT
43.0	US 18	40.71	40.78	3.70	NB	Waterborne/Solvent Paint			X	No										3.70	3.70			MICROMILLING TEMP PAINT
44.0	US 18	27.8	27.93	6.86	NB	Waterborne/Solvent Paint		X		No								6.86	13.72					MICROSURFACING TEMP PAINT
45.0	US 18	27.93	28.17	12.67	NB	Waterborne/Solvent Paint		X		No						12.67	16.85							MICROSURFACING TEMP PAINT
46.0	US 18	28.17	28.28	5.81	NB	Waterborne/Solvent Paint		X		No								5.81	11.62					MICROSURFACING TEMP PAINT
47.0	US 18	28.28	29.03	39.60	NB	Waterborne/Solvent Paint		X		No		39.60	9.90											MICROSURFACING TEMP PAINT
48.0	US 18	29.03	29.21	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROSURFACING TEMP PAINT
49.0	US 18	29.21	29.23	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											MICROSURFACING TEMP PAINT
50.0	US 18	29.23	29.41	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROSURFACING TEMP PAINT
51.0	US 18	29.41	29.43	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											MICROSURFACING TEMP PAINT
52.0	US 18	29.43	29.74	16.37	NB	Waterborne/Solvent Paint		X		No												16.37	20.46	MICROSURFACING TEMP PAINT
53.0	US 18	29.74	29.78	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											MICROSURFACING TEMP PAINT
54.0	US 18	29.78	29.92	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROSURFACING TEMP PAINT
55.0	US 18	29.92	30.28	19.01	NB	Waterborne/Solvent Paint		X		No		19.01	4.75											MICROSURFACING TEMP PAINT
56.0	US 18	30.28	30.48	10.56	NB	Waterborne/Solvent Paint		X		No												10.56	13.20	MICROSURFACING TEMP PAINT
57.0	US 18	30.48	30.64	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROSURFACING TEMP PAINT
58.0	US 18	30.64	31.79	60.72	NB	Waterborne/Solvent Paint		X		No		60.72	15.18											MICROSURFACING TEMP PAINT
59.0	US 18	31.79	31.95	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROSURFACING TEMP PAINT
60.0	US 18	31.95	31.99	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											MICROSURFACING TEMP PAINT
61.0	US 18	31.99	32.13	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROSURFACING TEMP PAINT
62.0	US 18	32.13	33.19	55.97	NB	Waterborne/Solvent Paint		X		No		55.97	13.99											MICROSURFACING TEMP PAINT
63.0	US 18	33.19	33.38	10.03	NB	Waterborne/Solvent Paint		X		No												10.03	12.54	MICROSURFACING TEMP PAINT
64.0	US 18	33.38	33.56	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROSURFACING TEMP PAINT
65.0	US 18	33.56	35.04	78.14	NB	Waterborne/Solvent Paint		X		No		78.14	19.54											MICROSURFACING TEMP PAINT
66.0	US 18	35.04	35.16	6.34	NB	Waterborne/Solvent Paint		X		No												6.34	7.93	MICROSURFACING TEMP PAINT
67.0	US 18	35.16	35.22	3.17	NB	Waterborne/Solvent Paint		X		No		3.17	0.79											MICROSURFACING TEMP PAINT
68.0	US 18	35.22	35.32	5.28	NB	Waterborne/Solvent Paint		X		No												5.28	6.60	MICROSURFACING TEMP PAINT
69.0	US 18	35.32	37.78	129.89	NB	Waterborne/Solvent Paint		X		No		129.89	32.47											MICROSURFACING TEMP PAINT
70.0	US 18	37.78	37.96	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	MICROSURFACING TEMP PAINT
71.0	US 18	37.96	38.1	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	MICROSURFACING TEMP PAINT
72.0	US 18	38.1	40.35	118.80	NB	Waterborne/Solvent Paint		X		No		118.80	29.70											MICROSURFACING TEMP PAINT
73.0	US 18	40.35	40.51	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROSURFACING TEMP PAINT
74.0	US 18	40.51	40.55	2.11	NB	Waterborne/Solvent Paint		X		No								2.11	4.22					MICROSURFACING TEMP PAINT
75.0	US 18	40.55	40.71	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	MICROSURFACING TEMP PAINT
76.0	US 18	40.71	41.01	15.84	NB	Waterborne/Solvent Paint		X		No				15.84	3.96							15.84	19.80	MICROSURFACING TEMP PAINT
77.0	US 18	27.8	41.01	697.49	NB	Waterborne/Solvent Paint	X		X	No										1394.98	1394.98			MICROSURFACING TEMP PAINT
78.0	US 18	27.8	27.84	2.11	NB	Waterborne/Solvent Paint			X	No										2.11	2.11			MICROSURFACING TEMP PAINT

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17 | BCY6: Broken Centerline (Yellow) @ 0.25 | BLC6: Broken Line Contrast (White/Black) @ 0.50 | BLW4: Broken Lane Line (White) @ 0.17 | BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 | CHW8: Channelizing Line (White) @ 1.33 | CHW10: Channelizing Line (White) @ 1.67 | CHY8: Channelizing Line (Yellow) @ 1.33 | CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 | DCY4: Double Centerline (Yellow) @ 1.34 | DCY6: Double Centerline (Yellow) @ 2.00 | DDY4: Double Dotted Line (Yellow) @ 0.44 | DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 | DLW6: Dotted Line (White) @ 0.33 | DLY4: Dotted Line (Yellow) @ 0.22 | DLY6: Dotted Line (Yellow) @ 0.33 | ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 | ELY4: Edge Line Left (Yellow) @ 0.67 | ELY6: Edge Line Left (Yellow) @ 1.00 | LDW8: Lane Drop (White) @ 0.33 | LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 | NPY4: No Passing Zone Line (Yellow) @ 0.84 | NPY6: No Passing Zone Line (Yellow) @ 1.25 | RLW4: Ramp Edge Line Right (White) @ 0.67 | RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 | RLY6: Ramp Edge Line Left (Yellow) @ 1.00 | SLW2: Stop Line (White) @ 4.00 | SLW4: Solid Lane Line (White) @ 0.67 | SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 | SPW6: Sloped Curb 6" (White) @ 2.28 | SPY4: Sloped Curb 4" (Yellow) @ 2.16 | SPY6: Sloped Curb 6" (Yellow) @ 2.28 | STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 | YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Begin Ref. Location Sign	End Ref. Location Sign	Line Length (STA)	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 (STA)	BCY6 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHY8 (STA)	CHY8 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	Remarks
79.0	US 18	27.86	27.92	3.17	NB	Waterborne/Solvent Paint	X			No										3.17	3.17			MICROSURFACING TEMP PAINT
80.0	US 18	27.99	28.05	3.17	NB	Waterborne/Solvent Paint			X	No										3.17	3.17			MICROSURFACING TEMP PAINT
81.0	US 18	28.06	28.1	2.11	NB	Waterborne/Solvent Paint	X			No										2.11	2.11			MICROSURFACING TEMP PAINT
82.0	US 18	31.74	31.79	2.64	NB	Waterborne/Solvent Paint			X	No										2.64	2.64			MICROSURFACING TEMP PAINT
83.0	US 18	34.81	34.9	4.75	NB	Waterborne/Solvent Paint	X			No										4.75	4.75			MICROSURFACING TEMP PAINT
84.0	US 18	35.74	35.8	3.17	NB	Waterborne/Solvent Paint			X	No										3.17	3.17			MICROSURFACING TEMP PAINT
85.0	US 18	38.79	38.85	3.17	NB	Waterborne/Solvent Paint	X			No										3.17	3.17			MICROSURFACING TEMP PAINT
86.0	US 18	40.71	40.78	3.70	NB	Waterborne/Solvent Paint			X	No										3.70	3.70			MICROSURFACING TEMP PAINT
87.0	US 18	27.8	27.93	6.86	NB	Waterborne/Solvent Paint		X		Yes	13.72							6.86	13.72					PERMANENT PAINT
88.0	US 18	27.93	28.17	12.67	NB	Thermoplastic		X		Yes	16.85					12.67	16.85							PERMANENT PAINT
89.0	US 18	28.17	28.28	5.81	NB	Waterborne/Solvent Paint		X		Yes	11.62							5.81	11.62					PERMANENT PAINT
90.0	US 18	28.28	29.03	39.60	NB	Waterborne/Solvent Paint		X		No		39.60	9.90											PERMANENT PAINT
91.0	US 18	29.03	29.21	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	PERMANENT PAINT
92.0	US 18	29.21	29.23	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											PERMANENT PAINT
93.0	US 18	29.23	29.41	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	PERMANENT PAINT
94.0	US 18	29.41	29.43	1.06	NB	Waterborne/Solvent Paint		X		No		1.06	0.26											PERMANENT PAINT
95.0	US 18	29.43	29.74	16.37	NB	Waterborne/Solvent Paint		X		No												16.37	20.46	PERMANENT PAINT
96.0	US 18	29.74	29.78	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											PERMANENT PAINT
97.0	US 18	29.78	29.92	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	PERMANENT PAINT
98.0	US 18	29.92	30.28	19.01	NB	Waterborne/Solvent Paint		X		No		19.01	4.75											PERMANENT PAINT
99.0	US 18	30.28	30.48	10.56	NB	Waterborne/Solvent Paint		X		No												10.56	13.20	PERMANENT PAINT
100.0	US 18	30.48	30.64	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	PERMANENT PAINT
101.0	US 18	30.64	31.79	60.72	NB	Waterborne/Solvent Paint		X		No		60.72	15.18											PERMANENT PAINT
102.0	US 18	31.79	31.95	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	PERMANENT PAINT
103.0	US 18	31.95	31.99	2.11	NB	Waterborne/Solvent Paint		X		No		2.11	0.53											PERMANENT PAINT
104.0	US 18	31.99	32.13	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	PERMANENT PAINT
105.0	US 18	32.13	33.19	55.97	NB	Waterborne/Solvent Paint		X		No		55.97	13.99											PERMANENT PAINT
106.0	US 18	33.19	33.38	10.03	NB	Waterborne/Solvent Paint		X		No												10.03	12.54	PERMANENT PAINT
107.0	US 18	33.38	33.56	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	PERMANENT PAINT
108.0	US 18	33.56	35.04	78.14	NB	Waterborne/Solvent Paint		X		Yes	19.54	78.14	19.54											PERMANENT PAINT
109.0	US 18	35.04	35.16	6.34	NB	Waterborne/Solvent Paint		X		No												6.34	7.93	PERMANENT PAINT
110.0	US 18	35.16	35.22	3.17	NB	Waterborne/Solvent Paint		X		No		3.17	0.79											PERMANENT PAINT
111.0	US 18	35.22	35.32	5.28	NB	Waterborne/Solvent Paint		X		No												5.28	6.60	PERMANENT PAINT
112.0	US 18	35.32	37.78	129.89	NB	Waterborne/Solvent Paint		X		No		129.89	32.47											PERMANENT PAINT
113.0	US 18	37.78	37.96	9.50	NB	Waterborne/Solvent Paint		X		No												9.50	11.88	PERMANENT PAINT
114.0	US 18	37.96	38.1	7.39	NB	Waterborne/Solvent Paint		X		No												7.39	9.24	PERMANENT PAINT
115.0	US 18	38.1	40.35	118.80	NB	Waterborne/Solvent Paint		X		No		118.80	29.70											PERMANENT PAINT
116.0	US 18	40.35	40.51	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	PERMANENT PAINT
117.0	US 18	40.51	40.55	2.11	NB	Waterborne/Solvent Paint		X		No								2.11	4.22					PERMANENT PAINT

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17 | BCY6: Broken Centerline (Yellow) @ 0.25 | BLC6: Broken Line Contrast (White/Black) @ 0.50 | BLW4: Broken Lane Line (White) @ 0.17 | BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 | CHW8: Channelizing Line (White) @ 1.33 | CHW10: Channelizing Line (White) @ 1.67 | CHY8: Channelizing Line (Yellow) @ 1.33 | CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 | DCY4: Double Centerline (Yellow) @ 1.34 | DCY6: Double Centerline (Yellow) @ 2.00 | DDY4: Double Dotted Line (Yellow) @ 0.44 | DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 | DLW6: Dotted Line (White) @ 0.33 | DLY4: Dotted Line (Yellow) @ 0.22 | DLY6: Dotted Line (Yellow) @ 0.33 | ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 | ELY4: Edge Line Left (Yellow) @ 0.67 | ELY6: Edge Line Left (Yellow) @ 1.00 | LDW8: Lane Drop (White) @ 0.33 | LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 | NPY4: No Passing Zone Line (Yellow) @ 0.84 | NPY6: No Passing Zone Line (Yellow) @ 1.25 | RLW4: Ramp Edge Line Right (White) @ 0.67 | RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 | RLY6: Ramp Edge Line Left (Yellow) @ 1.00 | SLW2: Stop Line (White) @ 4.00 | SLW4: Solid Lane Line (White) @ 0.67 | SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 | SPW6: Sloped Curb 6" (White) @ 2.28 | SPY4: Sloped Curb 4" (Yellow) @ 2.16 | SPY6: Sloped Curb 6" (Yellow) @ 2.28 | STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 | YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Begin Ref. Location Sign	End Ref. Location Sign	Line Length (STA)	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY6 (STA)	BCY6 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHY8 (STA)	CHY8 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	Remarks
118.0	US 18	40.55	40.71	8.45	NB	Waterborne/Solvent Paint		X		No												8.45	10.56	PERMANENT PAINT
119.0	US 18	40.71	41.01	15.84	NB	Waterborne/Solvent Paint		X		No				15.84	3.96							15.84	19.80	PERMANENT PAINT
120.0	US 18	27.8	41.01	697.49	NB	Waterborne/Solvent Paint	X		X	Yes	1394.98									1394.98	1394.98			PERMANENT PAINT
121.0	US 18	27.8	27.84	2.11	NB	Waterborne/Solvent Paint			X	Yes	2.11									2.11	2.11			PERMANENT PAINT
122.0	US 18	27.86	27.92	3.17	NB	Waterborne/Solvent Paint	X			Yes	3.17									3.17	3.17			PERMANENT PAINT
123.0	US 18	27.99	28.05	3.17	NB	Waterborne/Solvent Paint			X	Yes	3.17									3.17	3.17			PERMANENT PAINT
124.0	US 18	28.06	28.1	2.11	NB	Waterborne/Solvent Paint	X			Yes	2.11									2.11	2.11			PERMANENT PAINT
125.0	US 18	31.74	31.79	2.64	NB	Waterborne/Solvent Paint			X	Yes	2.64									2.64	2.64			PERMANENT PAINT
126.0	US 18	34.81	34.9	4.75	NB	Waterborne/Solvent Paint	X			Yes	4.75									4.75	4.75			PERMANENT PAINT
127.0	US 18	35.74	35.8	3.17	NB	Waterborne/Solvent Paint			X	Yes	3.17									3.17	3.17			PERMANENT PAINT
128.0	US 18	38.79	38.85	3.17	NB	Waterborne/Solvent Paint	X			Yes	3.17									3.17	3.17			PERMANENT PAINT
129.0	US 18	40.71	40.78	3.70	NB	Waterborne/Solvent Paint			X	Yes	3.70									3.70	3.70			PERMANENT PAINT
Total											1484.70		383.70		11.88		50.55		88.68		4268.91		594.03	

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Line No.	Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Groove Marking Needed?	Remarks
1.0	US 18	104+81.00	Right	RTAW	2	No	MICROMILLING
2.0	US 18	107+16.00	Left	RTAW	2	No	MICROMILLING
3.0	US 18	115+41.00	Median	LTAW	2	No	MICROMILLING
4.0	US 18	117+18.00	Median	LTAW	2	No	MICROMILLING
5.0	US 18	196+24.00	Right	RTAW	2	No	MICROMILLING
6.0	US 18	357+55.00	Left	RTAW	2	No	MICROMILLING
7.0	US 18	407+92.00	Right	RTAW	2	No	MICROMILLING
8.0	US 18	567+66.00	Left	RTAW	2	No	MICROMILLING
9.0	US 18	669+00.00	Left	RLRW	2	No	MICROMILLING
10.0	US 18	670+90.00	Right	RTAW	2	No	MICROMILLING
11.0	US 18	104+81.00	Right	RTAW	2	No	MICROSURFACING
12.0	US 18	107+16.00	Left	RTAW	2	No	MICROSURFACING
13.0	US 18	115+41.00	Median	LTAW	2	No	MICROSURFACING
14.0	US 18	117+18.00	Median	LTAW	2	No	MICROSURFACING
15.0	US 18	196+24.00	Right	RTAW	2	No	MICROSURFACING
16.0	US 18	357+55.00	Left	RTAW	2	No	MICROSURFACING
17.0	US 18	407+92.00	Right	RTAW	2	No	MICROSURFACING
18.0	US 18	567+66.00	Left	RTAW	2	No	MICROSURFACING
19.0	US 18	669+00.00	Left	RLRW	2	No	MICROSURFACING
20.0	US 18	670+90.00	Right	RTAW	2	No	MICROSURFACING
21.0	US 18	104+81.00	Right	RTAW	2	Yes	THERMOPLASTIC
22.0	US 18	107+16.00	Left	RTAW	2	Yes	THERMOPLASTIC
23.0	US 18	115+41.00	Median	LTAW	2	Yes	THERMOPLASTIC
24.0	US 18	117+18.00	Median	LTAW	2	Yes	THERMOPLASTIC
25.0	US 18	196+24.00	Right	RTAW	2	Yes	THERMOPLASTIC
26.0	US 18	357+55.00	Left	RTAW	2	Yes	THERMOPLASTIC
27.0	US 18	407+92.00	Right	RTAW	2	Yes	THERMOPLASTIC
28.0	US 18	567+66.00	Left	RTAW	2	Yes	THERMOPLASTIC
29.0	US 18	669+00.00	Left	RLRW	2	Yes	THERMOPLASTIC
30.0	US 18	670+90.00	Right	RTAW	2	Yes	THERMOPLASTIC

CRASH CUSHIONS

* Bid Item
1. Lane(s) to which the installation is adjacent.
2. Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500.

Line No.	Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	V (FT) (2)	W (FT) (2)	X (FT) (2)	Y (FT) (2)	Z (FT) (2)	Excavation Class 10* (CY)	Embankment in Place* (CY)	Obstacle Description	Remarks
1.0	EB	305+39.90	Right	2.0	Permanent Severe Use	1								Barrier Rail	

110_01
4/5/24

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	110+87.00	112+00.00	Right	PCC	31.4	113.0	Remove PCC to be 2” in front from posts of new guardrail
2.0	111+14.00	112+00.00	Left	PCC	23.9	86.0	Remove PCC to be 2” in front from posts of new guardrail
3.0	112+85.00	113+95.00	Right	PCC	30.6	110.0	Remove PCC to be 2” in front from posts of new guardrail
4.0	112+85.00	113+95.00	Left	PCC	30.6	110.0	Remove PCC to be 2” in front from posts of new guardrail
5.0	304+23.00	305+39.00	Left	PCC	32.2	116.0	Remove PCC to be 2” in front from posts of new guardrail
6.0	306+00.00	307+12.00	Right	PCC	31.1	112.0	Remove PCC to be 2” in front from posts of new guardrail
7.0	306+00.00	307+12.00	Left	PCC	31.1	112.0	Remove PCC to be 2” in front from posts of new guardrail

110_07A

8/15/22

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0	1	EB	111+25.80	113+75.80	Right	250.0
2.0	2	WB	110+95.80	113+45.80	Left	250.0
3.0	3	EB	304+09.90	306+59.90	Left	250.0
4.0	4	WB	304+19.90	306+69.90	Right	250.0

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.
(7) Paved shoulder thickness specified in Remarks.
(8) Subbase type specified in Remarks.

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/ STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Paved Shoulder at Grdrail (5)(7) (SY)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Pavement Scarification (SY)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Earth Shoulder Const. Alt (3) (STA)	Earth Shoulder Const. Alt HMA (6) (CY)	Earth Shoulder Const. Alt PCC (6) (CY)	Remarks
US 18	EB	109+69.00	110+87.00	Right				118.00					142.6	142.6		44.900									1.18			
US 18	WB	110+56.80	111+14.00	Left				57.20					71.5	71.5		22.500									0.57			
US 18	EB	113+94.00	114+28.00	Right				34.00					44.4	44.4		14.000									0.34			
US 18	WB	113+94.00	115+16.00	Left				122.00					147.4	147.4		46.400									1.22			
US 18	WB	303+70.00	304+24.00	Left				54.00					67.5	67.5		21.300									0.54			
US 18	EB	307+13.00	307+43.00	Right				30.00					36.7	36.7		11.600									0.30			
US 18	WB	307+13.00	308+30.00	Left				117.00					152.8	152.8		48.100									1.17			

RUMBLE STRIPS

* Calculated at 18" width for Shoulder.
** For use with penetrating Engineered Fog Seal. Calculated at 2" wider than rumble strips.

Line No.	Road Identification	Station From	Station To	Surface Type	Rumble Strip Lane	Rumble Strip Type	Fog Seal Type	L (IN)	PCC Length (STA)	HMA Length (STA)	Fog Seal* Shoulder (GAL)	Fog Seal (SY)**	Effective Shoulder Width PCC (FT)	Effective Shoulder Width HMA (FT)	Effective Shoulder Width Granular\Earth (FT)	Remarks
1.0	US 18	41+85.00	303+22.00	HMA	Centerline	Milled Centerline Rumble Strips	Penetrating Engineered	12"		261.37		3397.8				
2.0	US 18	382+62.00	683+81.00	HMA	Centerline	Milled Centerline Rumble Strips	Penetrating Engineered	12"		301.19		3915.5				
Total										562.56		7313.28				

262_06
9/28/22

UTILITIES (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

10/2/2026 10:21:29 AM alex.wiertzema@iowadot.us

108_23A

8/15/22

TRAFFIC CONTROL PLAN

1. Through traffic will be maintained on the project at all times.

2. Traffic control on this project shall be found in accordance with the TC series of Standard Road Plans found in Tab. 105-4 and/or appropriate Detail Sheets included in the plans. For additional complementary information, refer to part VI of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.

3. The contractor shall coordinate traffic control with other projects in the area.

511 TRAVEL RESTRICTIONS

Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	US 18	2-Lane	Sioux	Division St in Hull to College Dr. in Sheldon		Traffic Control Device		Horizontal	24	12			



FILE NO. 98765	ENGLISH	DESIGN TEAM District 3	SIOUX COUNTY	PROJECT NUMBER NHSN-018-1(101)--2R-84	SHEET NUMBER U.1	

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FILE NO. 98765	ENGLISH	DESIGN TEAM District 3	SIOUX COUNTY	PROJECT NUMBER NHSN-018-1(101)--2R-84	SHEET NUMBER U.2	

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